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SOLE NOTES

ON

LEWIS GUNS AND MACHINE GUNS.

[These notes are written by a regimental officer with considerable experience in handling Lewis guns and Machine guns in the present war. They should be read in conjunction with S.S. 106.]

Issued by the General Staff.

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SOME NOTES ON LEWIS GUNS AND MACHINE GUNS.

I. PRINCIPLES OF EMPLOYMENT.

1. Now that two Lewis guns are added to the equipment of each Company, any officer may find himself in command of this new weapon, and he should therefore have some notion of the best use to which it can be put.

These notes are designed to help officers in this. A good many of the remarks may be platitudes to the more experienced officers, but I know that many have had little opportunity of studying any form of machine gun.

2. The principles of machine guns, in their simplest form, necessarily come into such a subject, and I have dealt with them at some length for three reasons :—

(1) A Lewis gun is a form of machine gun and takes over some of the work previously done by Maxim and Vickers guns. Some of this work they do as well as a Vickers, some better, some worse. An officer commanding a Lewis gun ought to know what work is best left to a Machine gun and what he can take on better himself.

(2) Machine guns work so closely with infantry that much misunderstanding can be removed if the infantry officers know something of the principles on which they are used.

(3) One of the main jobs of Lewis guns is knocking out enemy machine guns. And to hunt anything successfully you must know its habits.

II. CHARACTERISTICS OF LEWIS GUNS AND MACHINE GUNS.

1. *Lewis guns share with Machine guns* the following characteristics :—

(i.) They can at any moment open a heavy concentrated fire, and the volume of fire is not decreased till more than 66 per cent. of the team become casualties.

(In a Company, every casualty sustained lessens the volume of fire.)

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(ii.) They can give a maximum volume of fire from a minimum of front.

(For a short burst, the fire of a Lewis gun equals that of about 20-30 rifles, and it can be fired from a single loop-hole, or, in the open, from a frontage of two men.)

(iii.) Fire control is easy, since all the firing is done by one man.

2. *Lewis guns differ from Machine guns* as follows :—

(i.) They are cooled by air and not by water. They therefore get hot much sooner and will be red hot if 700 or 800 rounds are fired rapidly. If more are fired they may burst. Company officers, therefore, if requiring only one gun, should use both alternately. Again if one company has a hot time while another has nothing to do, the latter should be prepared temporarily to exchange guns with the former.

(ii.) They are more open, and therefore more exposed to dust, wet and mud than Machine guns. They also contain a greater number of easily broken parts.

(iii.) The magazines are more easily damaged than the belts of Machine guns. If a full one is dropped on hardgro und it will probably be so dented that it will not fit the gun. The bulk of the magazines therefore must be carried in boxes sufficiently strong to protect them and these are very heavy.

(845 rounds in the boxes issued to us weigh 102 lbs., while a box of 1,000 rounds of S.A. ammunition in bandoliers only weighs 75 lbs. more. Boxes carrying 1,000 rounds of Machine gun ammunition in belts weigh 78 lb.)

(iv.) The main advantage claimed for Lewis guns over Machine guns is that, needing no water, they are lighter and so more mobile.

But company officers must remember that the mobility of a gun depends largely upon the mobility of its ammunition. They must therefore be prepared to provide men to lend a hand with the heavy magazine boxes in cases of a long rapid advance or of casualties among the section carriers.

3. To sum up, a Lewis gun is rather like that inevitable starter in the Grand National about which all the prophets say that "it will win if it stands up." That generally means that it hasn't a chance unless it has a first rate training with a real good jockey. In the same way stoppages and breakages in a Lewis gun can only be prevented and minimized by having real good men who will keep their guns in order and use them properly. Company officers, in selecting men, should imagine that they have a new motor car and wish to choose one of their men to be trained as chauffeur. A Lewis gun is

a more delicate piece of mechanism than a motor car and needs more constant attention. A rough stupid man can put it out of action for a long time in cleaning it; and a careless irresponsible man will waste endless ammunition if he fires it, and will have his gun red hot at the critical moment.

III.—TACTICAL HANDLING.

The simplest way to arrive at the purposes to which Lewis guns may be put is to consider first the work machine guns have done in the past, and then see what part of this work Lewis guns should take over, and also if there is any further work for which they are specially adapted.

(I.) Trench Defence.

1. In normal times in the trenches the first duty of machine guns is defence. For this purpose brigade machine gun officers make arrangements for their machine guns in the front trenches to join in forming what is called a "belt of fire" across the entire front. Every machine gun officer, on taking over a sector of the line, is shown or provided with a map something like Fig. 1.

If this belt is properly constructed it is clear that no considerable body of the enemy can cross No-man's land without terrific losses, so long as the machine guns remain in action. The emplacements from which Machine guns fire to form this belt of fire are called "battle emplacements"; they must be well concealed and strong enough to resist anything but a direct hit from a large shell. Each gun should have an alternative battle emplacement covering the same allotted field of fire, in case one should be knocked in. "Defence" emplacement would probably be a better name than "battle" emplacement; for these emplacements are designed for defence, and for an attack different positions would often be selected.

2. Two points should first be noted about the siting of these emplacements:—

(i.) The guns all fire diagonally.

This is for three reasons. (*a*) They cover more ground. A greater space of No-man's land can be swept without altering the aim, and together they form a belt of fire through which the enemy attack must pass. Fewer men will thus be needed to hold the trench. (*b*) They are less likely to be seen, because they are defiladed from the nearest part of the enemy's trenches. (*c*) They enfilade an enemy attack, and shots which miss or pass through a near party may hit the next.

Hence it follows that a gun sited in one company is probably looking after the front of another company or even another battalion. The men on duty with machine guns must not, therefore, be looked on by company officers as sentries in the ordinary way. Their only concern is to keep their guns tuned up to prevent anyone from tampering with them, and to look out *along their line of fire*. We had one emplacement, for instance, in the middle sector at Ypres, where the sentry could only watch his line of fire at night through the loop hole in his emplacement.

(ii.) Each gun has its own particular ground to cover which may be large or small: and so long as it covers that satisfactorily it fulfils its main purpose.

Company officers sometimes look through an emplacement and criticize it adversely on the ground that it has a small field of fire. Such criticisms cannot be intelligently made unless the critic knows the purpose for which the gun has been so placed.

3. The formation of such a belt of fire looks very easy on a map, but in practice many points have to be considered. In the first place all the guns, so far as possible, must be sited for grazing fire and not for plunging fire. In other words, the trajectory of the bullet should coincide with the slope of the ground for as long a distance as possible. One of the great advantages of the Maxim or Vickers gun is its fixed platform. The gun can be laid along its line at dusk and fired with effect at any hour of the night, but this advantage is lost if the aim of the gun has to be continually changed. (The German front line machine guns rarely traverse at all. The traversing fire that sometimes comes over our lines is generally from a reserve trench.) It follows, therefore, that a high commanding position is a disadvantage for a front line gun, especially at night. (See Fig. 2.)

4. When your trench line runs up a slope, it is generally better to cover the front by siting your gun at the bottom and firing up the slope for the following reasons:—(i) You are more likely to get an attacking party at night on the skyline. (ii) The emplacement at the top of the slope would be more easily spotted, and when spotted will be more easily shelled. (iii) When firing down a slope the bullets that miss their immediate object generally bury themselves in the ground. When firing up over a ridge the outside bullets of the cone may do damage on the other side. In fact one can generally site a gun with this secondary object in mind, and work out the aim with a map, clinometer and compass so that such bullets are likely to fall somewhere useful—either to enfilade an enemy trench further up the line or hit a village, headquarters, dump, or cross-roads behind.

"Mad Alick" of ——, the generic name of a family of machine guns in that neighbourhood, is a good instance of this practice. He fires at the top of our parapet where he can partially enfilade it, but is so placed that shots which pass over it will fall in the neighbourhood of ——. Luckily he has mistaken the contours and cannot get observation of his fire, with the result that the centre of his effective beaten zone is generally halfway up the tower of —— Church. If he retired two or three hundred yards and fired at the same mark and elevation, he would make —— street a much more unpopular promenade.

5. This is an important point for Lewis guns as well as Machine guns. The main criticism that can be brought against both is that they fire so rapidly that every shot cannot hit and therefore they are wasteful of ammunition. This charge can largely be answered by so firing that the outside shots of the cone have a reasonable chance of hitting a secondary target. To accomplish this successfully the directing gunner must have a good bump of locality and a thorough knowledge of the map.

(II.) Strafing in Trenches.

1. While the formation of a belt of fire, to economize infantry in defence, is the first duty of machine guns posted in front line trenches, a certain amount of useful strafing can also be done on occasions. But only in exceptional circumstances should this be indulged in from the battle emplacements or they will soon be discovered. This work can generally be best done by reserve guns from rising ground behind the trenches. Dumps, approaches, cross-roads, &c., can often be fired on. But if an attack is contemplated, any approaches or communication trenches that can be reached should be left alone till the day of attack, or the enemy will defilade them with traverses or choose a safer line.

2. Patrols, working parties or gaps in the enemy's parapet can be strafed from the front line and for this purpose less elaborate emplacements may be made, often in commanding positions.

(III.) Lewis Guns in Trenches.

1. Now arises the question, what part of the machine gun work in the trenches can Lewis guns usefully take over?

The "belt of fire" business is, in the main, best left to Machine guns when these are available, because, owing to their fixed platforms, they can better cover their lines by night; but there are occasions when Lewis guns can usefully supplement them. For instance, your trench line may run over a flat-topped ridge. Both slopes may be swept by machine guns shooting upwards, but neither may sweep the flat top. The top would be an unsuitable place for a permanent emplacement and in any case it would be wasteful to retain a Machine gun for so small a space. A Lewis gun

placed near would make this secure, see Fig. 3*a*. Again, in the middle sector at Ypres there was a hollow with a hedge in it running at right angles to our trenches and we had to keep one Machine gun solely to watch it—see Fig. 3*b*. Here a Lewis gun would do the work perfectly well.

2. But it is in the strafing that Lewis guns will be most useful. There is practically no front-line strafing that cannot be better done by Lewis guns. The work does not need long-continued fire; and two or three Lewis guns could quickly be concentrated to join in such work without leaving any gaps in the belt of fire, as would occur if front line Machine guns were moved for this purpose.*

3. Again, any work in front of our own lines is more suited to Lewis guns. At Fleurbaix last June the Germans used often to work in the daytime on a new trench 40 yards in front of their line—dead ground from our parapet. I asked permission to take out a Maxim through the long grass to stalk them, but the Colonel refused because if we were surprised by an enemy patrol we would have difficulty in getting so heavy a gun away. Here was an ideal opening for a Lewis gun. Similarly in an enterprise on the German trenches two Lewis guns pushed out into No-man's land on either side of the point of attack would keep clear the raiding party's line of retreat.

(IV.) The Attack from Trenches.

1. In any attack the duties of all forms of machine guns are (i) to cover the advance of the infantry by keeping down or unsteadying the enemy's fire; (ii) to prevent or delay the enemy from bringing reinforcements to the threatened points; (iii) to help in the fight for superiority of fire before the assault.

In a trench attack (iii) will not occur. The necessary superiority must be obtained beforehand by greater weight of artillery and by holding the supremacy of No-man's land.

Let us picture a typical trench attack and see how Machine guns and Lewis guns can attain the first two objects.

First phase.

2. In the preliminary bombardment Lewis guns can do nothing and Machine guns very little. I have seen it suggested that machine guns should enfilade any communication trenches that they can in order to catch Germans retiring to the shelter of the second line. I do not agree with this. Impatience is a very general fault on our side. When we see a chance of inflicting some small damage on the enemy we are far too apt to do it at once instead of saving up the blow for some time when it will have a real importance. As an example of this when officers in the front line spot an enemy machine

* *Note by General Staff.*—Lewis guns are not, however, suitable for "strafing" by indirect fire and should not be used for this purpose (see S.S. 106, Appendix A, 3 (*a*)).

gun, even if it is doing no damage, they often call on the artillery to shell it. Even if our guns knock it out, another will quickly be brought up to sweep the same ground from a safer position and nothing material has been gained. On the other hand, if the gun were left in fancied security till the morning of an attack, and then knocked out, the Germans probably could not replace it in time to be of any service. In just the same way, by enfilading communication trenches early in a bombardment you may catch a few men. But the trench can be easily cleared and will be marked as dangerous. If you leave it alone and strafe it when the enemy are returning to the front line to meet our attack, the effect will be far greater. You may block the trench and upset the German organisation.

3. When the bombardment ceases, our infantry goes "over the top." As soon as the enemy sees them, every loophole will be opened and parapets manned. An intense fire will be poured upon our men both from the enemy's front line and from any positions behind commanding No-man's land. However severe our bombardment, some machine gun emplacements are sure to be left, and it is from these that the greatest losses will be dealt.

4. The Vickers in rear can deal with the enemy's second line positions; they can also delay reinforcements. They can do this by enfilading communication trenches; by shooting over others which cannot be directly enfiladed they will make the enemy stick to the trench instead of coming up more quickly over the top. They can also often search ground which the artillery cannot effectively shell, as it is here that reinforcements will probably be collecting.

5. But before the arrival of Lewis guns it was always very difficult to silence the enemy's front line. It is clear that this cannot be properly done from our own trenches because our fire would at once be masked by our own attacking troops. As a suggestion, gaps might be left in our attacking line, especially in a salient opposite well-shelled trenches, for machine guns to fire through, see Fig. 4. But this covering fire must chiefly be done by guns placed well in front of our own trenches, which can continue firing till the infantry is past them. For this purpose the light and easily concealed Lewis gun is particularly well adapted, and Vickers guns can also be used in the most favourable positions for cover. How these guns get there is immaterial provided that they reach their places unseen before the attack. They may go out the night before, dig themselves in and stop there; or they may prepare their shelter at night and crawl out to it in the later stages of the bombardment or under cover of a smoke cloud. They should get as far forward as possible so long as they are out of bombing distance of enemy saps and not in the line of fire of our own wire-cutting guns. Since they will fire diagonally, a position behind a hillock where they are covered from the trenches opposite might be a good one. But each position must be chosen on its merits.

6. If Vickers guns and Lewis guns were used together, the Vickers guns should sweep the enemy's parapets and their breastworks at loophole height, since they are more suited to sustained traversing fire.

7. The special job of Lewis guns is knocking out machine guns. But to do this one must study their habits. If a Lewis gunner hears a machine gun firing straight opposite him it is a great temptation to fire at the sound; but this would almost always be useless because German guns like our own fire diagonally and are defiladed from the front.

German front line machine guns have narrow loopholes because they traverse very little. They all have strong head cover, coming low down in front so that they can only be hit by short range fire. They fire diagonally so that they can only be hit from the direction in which they are firing. Lewis gunners, therefore, have the best chance of putting out the gun whose bullets are coming nearest themselves; and the strike of machine gun bullets on the ground is the best guide to the place from which you can put that machine gun out. German machine gun loopholes are generally near the ground level.

8. Every gun, Vickers or Lewis, must have assigned to it its own particular length of enemy trench before it is sent out. The Vickers guns will cover, between them, the whole parapet; while Lewis guns would be given a particular length of parapet to watch for machine guns. All these lines should be diagonal. (See Fig. 5.)

9. Only two men should go out with the gun, the rest waiting in the trench behind ready to bring on ammunition when the gun advances. With the gun must be sufficient ammunition for its immediate purpose as well as a load for No. 2 to take forward.

Second phase.

10. The Lewis guns, having ceased fire as the infantry passed, would remain in position until they were assured that the trenches had been carried. In case of failure they would cover the retreat. As soon as the infantry were well into the front trench the guns would move forward and join their companies.

11. If the attack was proceeding further they would endeavour to cover the next advance precisely as they covered the first. If, however, they have to meet a counter-attack at once, they must be arranged to form a belt of fire across the front precisely as machine guns do in the trenches, and they will continue to do this until a further advance is to be made, or the machine guns come up to consolidate the positions won. Occasionally a Lewis gun may be used to defend a straight communication trench; but these are rarely found near the front line; generally these trenches twist too much and are better defended by bombers, while the Lewis guns prevent a direct rush over the top. If the counter-attack comes

before you have time to organize a belt of fire across the whole battalion, companies should separate their Lewis guns, to fire inwards across each other's front.

12. It may happen that X Battalion captures its trench, but Z Battalion on its left fails to do so. One or two guns of X Battalion may then be usefully employed with the bombers working their way along the trench to the left. A good position for such a gun is shown in Fig. 6. In any case where one battalion finds itself in front of the general alignment, the Lewis guns of the middle companies must be prepared to form the belt of fire by themselves across the entire front, because the guns of the flank companies may have to be drawn back to protect the flanks of the battalion.

13. The best positions for the Lewis guns should always be chosen before the guns themselves follow up the attack. It is very dangerous to move guns laterally across the firing line. The guns, following up from the rear, should always be directed straight to their positions. Company commanders should arrange with their Lewis gun officers as to who is to carry out this important duty. In the authorized personnel of a Lewis gun team, no provision is made for scouts, range-takers or observers. I suggest that Lewis gun officers should have a liberal allowance of runners trained in this work.

14. Provided the gun is not overheated, ammunition may be used freely from the first position the guns occupy. But the moment guns go forward they must fire more sparingly. Once you are in the enemy's trenches every round of ammunition increases 10 times in value, and must be economized accordingly. All further supplies will have to pass through the enemy's curtain fire.

(V.) Lewis Guns in Open Fighting.

1. The main principles that govern the use of Lewis guns are the same in open fighting as under the circumstances already described.

2. The guns will sometimes have to be used for covering fire. If, for instance, the company is surprised by rifle or machine-gun fire while in artillery formation, all Lewis guns will at once get into action to cover the deployment.

3. Similarly in an attack, where the infantry has to advance over an exposed piece of ground, Lewis guns will be pushed ahead secretly to cover the movement. In former times companies would pass such ground by advancing by alternate platoons or sections, one platoon firing while the next advanced. Now Lewis guns can provide the necessary fire and the whole company can pass quickly over without halting. But where there is a long stretch of open ground, the covering can better be done by the overhead fire of Machine guns. Machine guns can fire far more continuously and can put in

accurate shooting at ranges up to a mile and a half. At this distance their bullets have a steep angle of descent and are therefore better calculated to demoralize troops in trenches. Still for short distances of exposed ground Lewis guns are better, because, by the use of pre-arranged signals, they can open fire at the exact moment that the infantry advances.

4. Lewis guns are also useful for shifting hostile advanced pickets or unexpected machine guns.

5. Such covering fire often has to be used when no clear target presents itself, but even so it may be of real value. In South Africa the men of the squadrons used to jibe at our machine guns and say they never hit anything; but, they added, "we like to hear them popping because they make the Boers shoot so badly."

6. Though in a war like this covering fire often has to be used, gunners must never lose sight of the real object of all kinds of machine guns, which is the *annihilation* of a body of the enemy. They are weapons of opportunity, and in general must lie low till they can get the greatest effect. They must get as near as they safely can to the enemy, when our side is advancing, and conversely they must allow an attacking enemy to come as near as they can without undue risk. This margin of safety varies according to circumstances. An enemy patrol of 50 men might be allowed to approach within 50 yards. If there are several patrols converging on the gun, this distance must be increased. The distance would be lessened if there were concealed barbed wire in front of the gun, and so on.

7. If one gun is firing at a party of the enemy it should open fire at that part of the enemy nearest to likely cover and traverse inwards. The enemy will probably run into the line of fire in trying to reach cover.

8. If two or more guns are used for the same purpose each must have a separate point of aim. With two guns each would start at an extreme flank of the party and traverse inwards; if there were four guns, the other two would lay on the centre and traverse outwards to left and right. All these points of aim must be settled beforehand.

9. It is impossible to go over all the situations that may occur in open fighting, but the following remarks may cover some of them.

The best mark a Lewis gun can have is cavalry. Cavalry has no terrors for any machine guns if the latter are ready for action.

Except in the case of covering fire, it is a general rule for Lewis guns that they should not open fire unless they have a reasonable chance of inflicting very severe losses. There are times, however when this rule will not hold good, viz.:—(i) In a rearguard delaying action, guns would open at extreme range to delay the enemy by making him deploy early. (ii) If an enemy is retreating a lucky burst of fire at long range may turn the retreat into a panic. In such a case

there is no object in waiting, because your target will get no nearer. (iii) It is worth having a long shot at particularly tempting marks. A battery limbering up, a machine gun section on the move, a general and his staff, should, like a woodcock, be strafed by everybody.

If there is a gap in our line, a Lewis gun on either side of it, shooting diagonally across each other's front, will prevent an enemy getting through till it is filled up.

In any organized scheme of attack or defence (as opposed to patrol work or small enterprise) each Lewis gun must be given its own particular line to deal with, and from this line of fire it must only move in exceptional circumstances. Such a case might be a local raid by the enemy. If the raiding party seemed likely to gain a footing in A sector and B sector was not attacked, the gun defending B sector might be swung round to help the defence of A. But in all such cases one man of the gun team must be ordered to keep watch along the original line, so that he can switch the gun back the moment a target presents itself on that line.

In defence Lewis guns should not be ordered to cover too wide a stretch of front. This would only lead to an inefficient watch, while if several targets presented themselves the gun would be constantly changing from one to the other and do little real damage to any. It is much better to give a gun a smaller line—say, one field and a hedge—even if the whole line is not covered. For if you prevent the enemy from crossing two fields here and two fields there, you will break up and disorganise his line, and he will attack your infantry with little chance of success.

Finally, Lewis guns should be handled as a sailor handles a submarine. In a square straight fight with a Vickers a Lewis gun stands no more chance than a submarine in a similar encounter with a battleship. Both only succeed by popping up unexpectedly, delivering a rapid crushing blow, and then, when they are discovered, trusting to escape by their mobility and invisibility to some other unexpected place from which they can repeat the dose.

IV.—GENERAL REMARKS.

1. The question may be asked. Is it worth while to try to work this somewhat elaborate organization? Why not use the Lewis guns as a kind of superior rifle, just like any other rifle is used now?

To this there are two answers.

(i) At the present moment rifles are not, in practice, used to the best advantage. The most important principles summed up in the expression "Fire control" are, owing to the extreme difficulty of applying them in action, in grave danger of being disregarded. Even in trenches one sees sentries at night firing off rounds haphazard in the direction of the opposite trench, instead of each bay being given some definite aiming mark along which its occupants can fire with greater chance of success. But with Lewis guns fire control is

greatly simplified, since only one man is firing the equivalent of twenty rifles, and therefore the fullest attention devoted to this subject is never wasted.

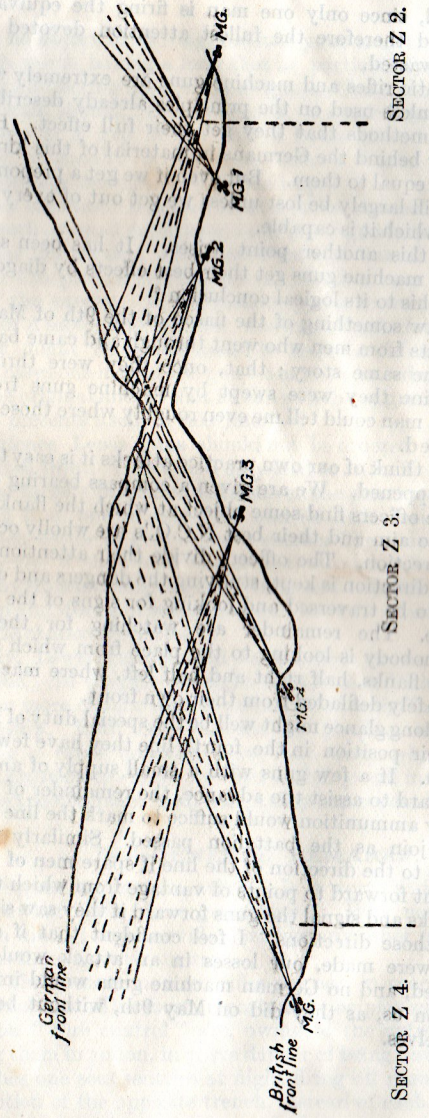
(ii) All automatic rifles and machine guns are extremely wasteful of ammunition unless used on the principles already described. It is only by such methods that they get their full effect. Hitherto we have been far behind the Germans in material of this kind: now we may be about equal to them. But even if we get a preponderance the advantage will largely be lost unless we get out of every weapon the full work of which it is capable.

2. And from this another point arises. It has been said that Lewis guns and machine guns get their best effects by diagonal fire. Why not carry this to its logical conclusion?

Many of us saw something of the fiasco of the 9th of May, 1915. I got full accounts from men who went through and came back. All of them told the same story; that, once they were through the German front line they were swept by machine guns from both flanks, but not a man could tell me even roughly where those machine guns were situated.

3. And if you think of our own practice attacks it is easy to see how such a thing happened. We are given a compass bearing on which to march. The officers find some object at which the flanks of their command are to aim and their best N.C.O.'s are wholly occupied in keeping this direction. The officers divide their attention between seeing that the direction is kept, studying the dangers and difficulties of the ground to be traversed and looking for signs of the enemy in their objective. The remainder are watching for the officer's signals. But nobody is looking to the place from which casualties will come—the flanks, half right and half left, where machine guns may be lying safely defiladed from their own front.

Now this sidelong glance might well be the special duty of Lewis gun teams. In their position in the fourth line they have few anxieties about direction. If a few guns with a small supply of ammunition were sent forward to assist the advance, the remainder of the teams carrying heavy ammunition would suffice to mark the line which the guns could rejoin as the battalion passed. Similarly no injury would be done to the direction of the line if spare men of Lewis gun teams were sent forward to points of vantage from which they could watch our flanks and signal the guns forward if they saw signs of any danger from those directions. I feel confident that if some such arrangement were made, our losses in an attack would be very greatly lessened, and no German machine guns would inflict heavy casualties upon us, as they did on May 9th, without being in any danger themselves.



SECTOR Z 2.

SECTOR Z 3.

SECTOR Z 4.

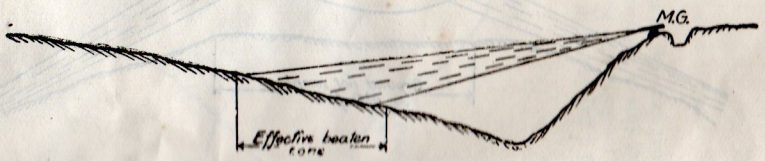
FIGURE 1.

EXAMPLE of chart given to Machine Gun Officer on taking over a sector of trenches (Z 3), showing lines of fire which his four guns must cover from their battle (*i.e.*, defence) emplacements.

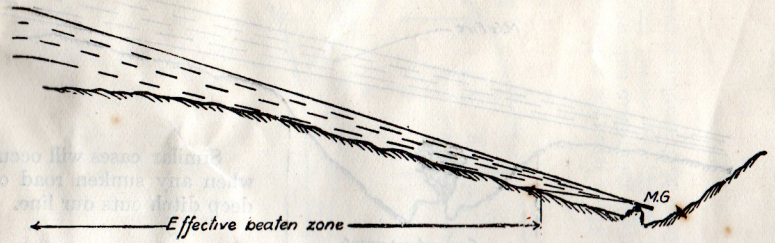
FIGURE 2.

MACHINE GUN DEFENDING A LINE.

(A) Machine Gun in a commanding position.



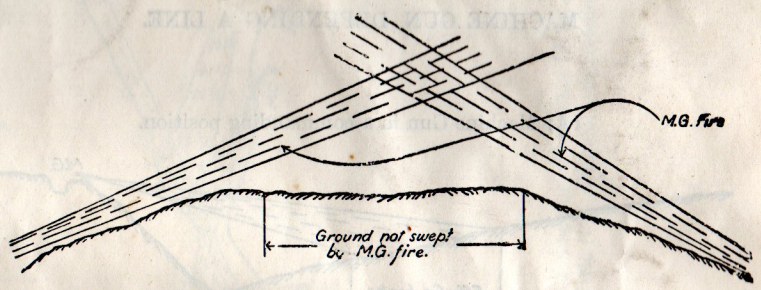
(B) Machine Gun in 'ow position.



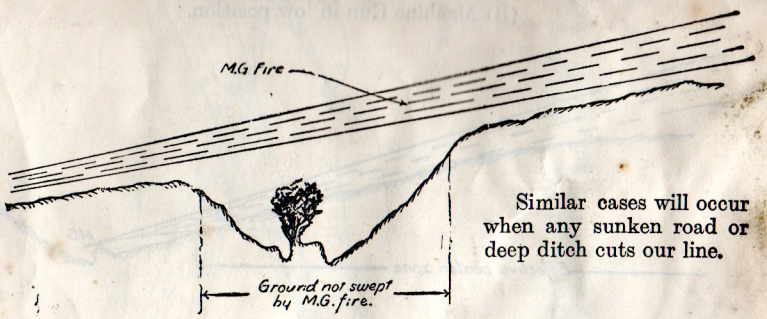
(Remember that both guns are shooting diagonally, so that (A) position would leave many gaps through which an enemy might pass. In (B) position there are no gaps.)

FIGURE 3.

(A).



(B).



Similar cases will occur when any sunken road or deep ditch cuts our line.

EXAMPLES of ground in front of trenches better defended by Lewis guns than by Machine guns.

(In both cases you are supposed to be looking straight to your front out of your own trench. The machine guns are firing away from you diagonally.)

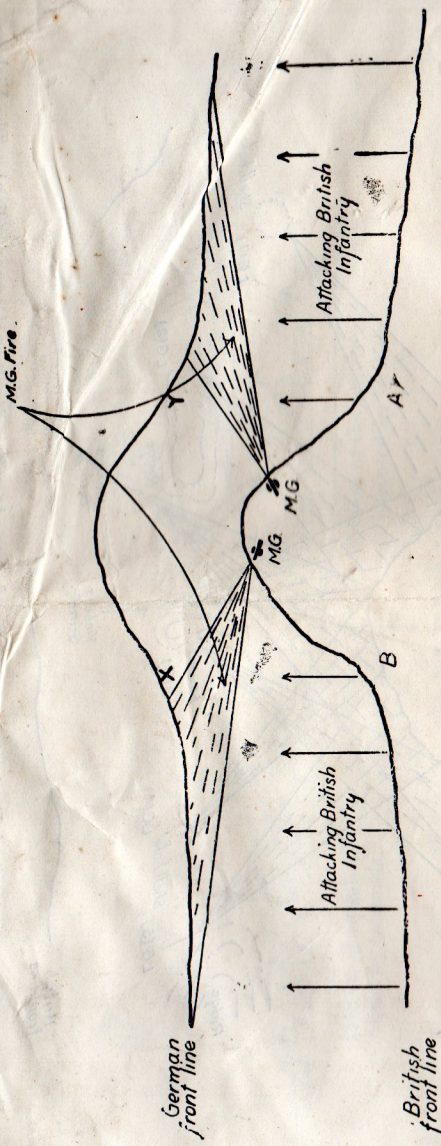
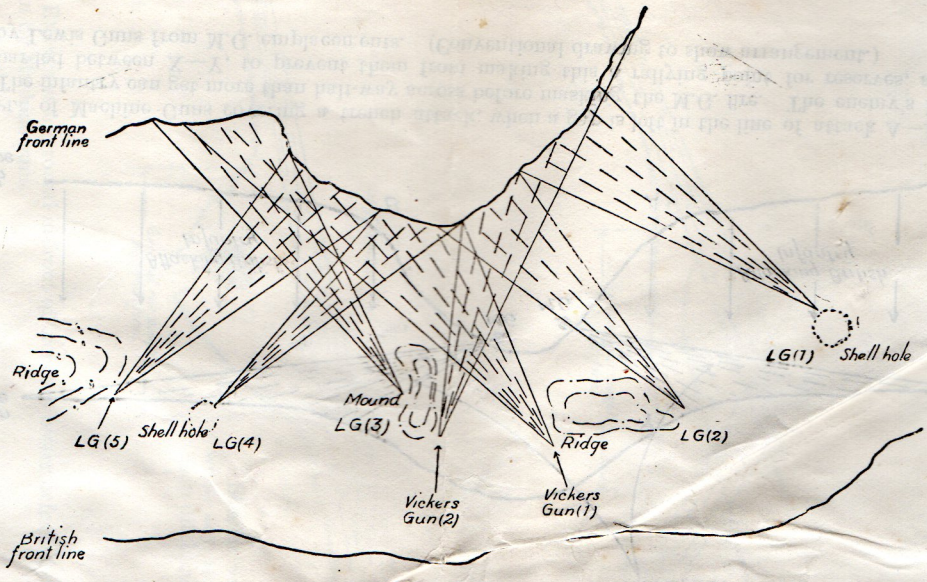


FIGURE 4.

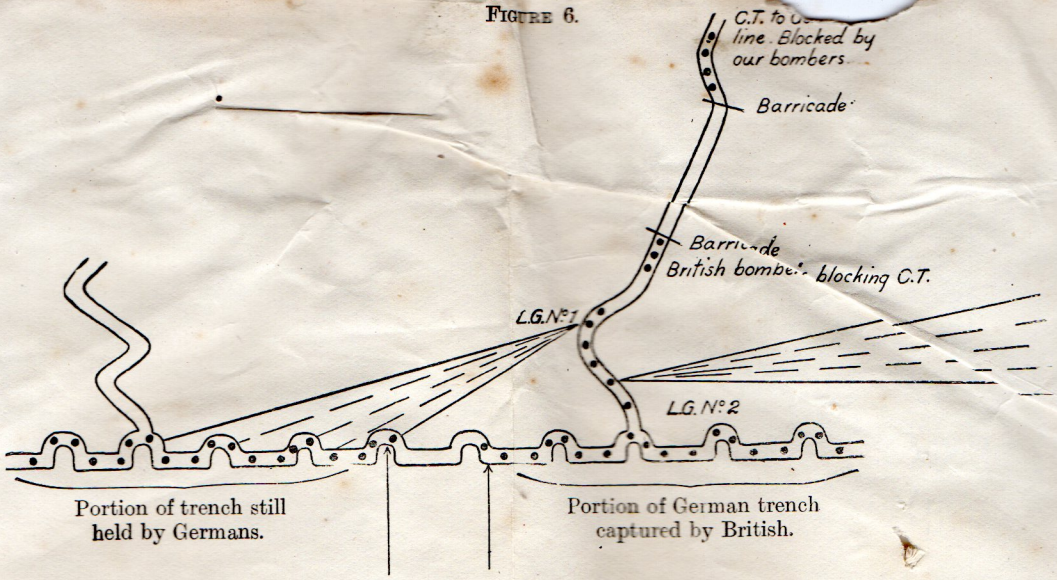
EXAMPLE of Machine Guns covering a trench attack, when a gap is left in the line of attack A—B—a British salient. The infantry can get more than half-way across before masking the M.G. fire. The enemy's line must be well bombarded between X—Y, to prevent them from making this a rallying point for reserves, and must be watched by Lewis Guns from M.G. emplacements. (Conventional drawing to show arrangement.)

FIGURE 5.



EXAMPLE of arrangement of Lewis (5) and Vickers (2) Guns to cover attack on German salient. The Vickers sweep the whole length of the parapet in their zones. The Lewis guns are allotted sections which they must watch for M.G. emplacements. These are always likely to be found in the sides of a salient.

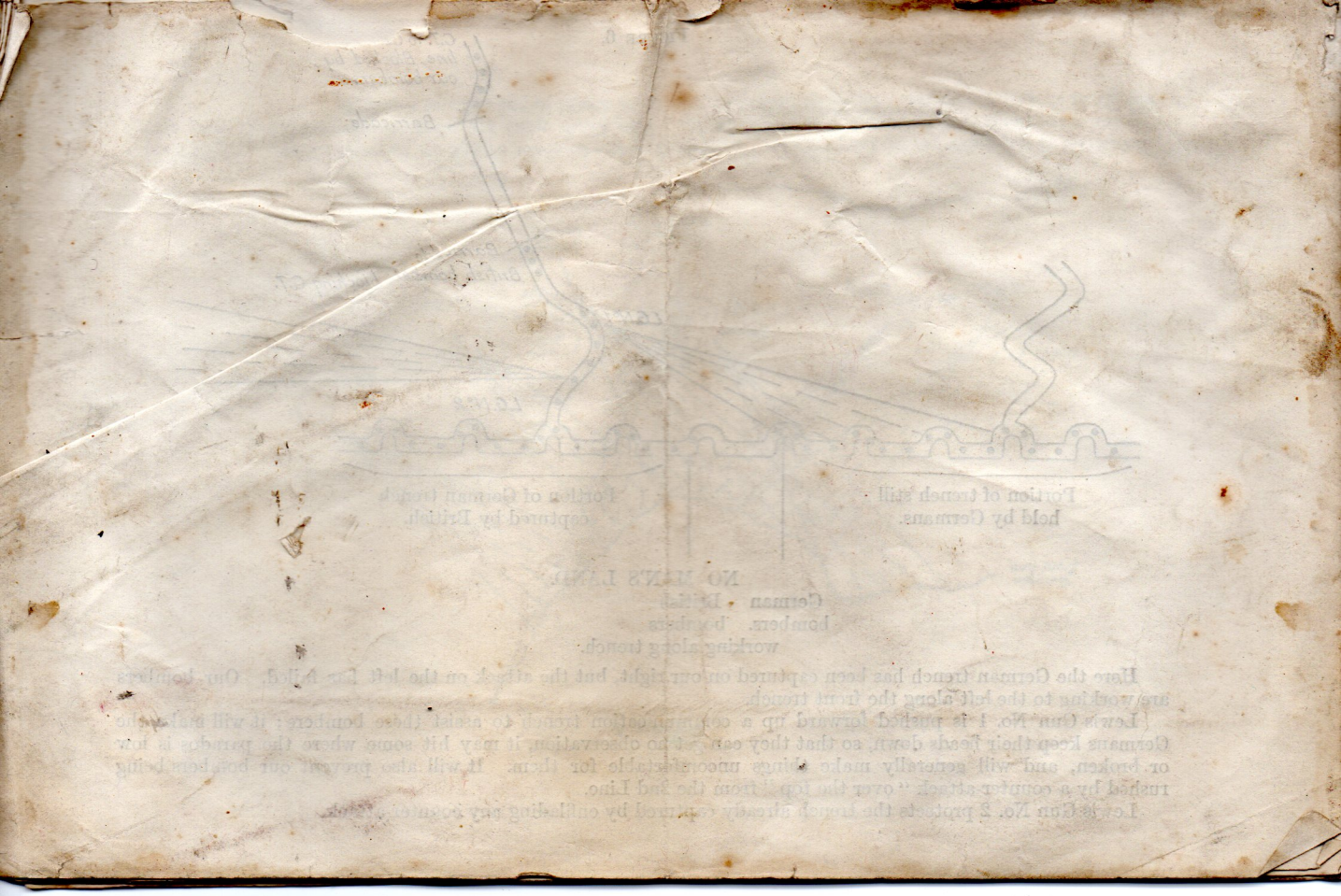
FIGURE 6.



Here the German trench has been captured on our right, but the attack on the left has failed. Our bombers are working to the left along the front trench.

Lewis Gun No. 1 is pushed forward up a communication trench to assist these bombers; it will make the Germans keep their heads down, so that they can get no observation, it may hit some where the parados is low or broken, and will generally make things uncomfortable for them. It will also prevent our bombers being rushed by a counter-attack "over the top" from the 2nd Line.

Lewis Gun No. 2 protects the trench already captured by enfilading any counter-attack.



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